

## **3.12 POPULATION, HOUSING, AND ECONOMICS**

This section discusses potential impacts and mitigation measures associated with changes in population, the availability of housing, and state and local economic conditions. The analysis in this section is primarily based on information provided by the Applicant in the ASC (BP 2002, Section 3.12 and Appendix L). Where additional sources of information were used to evaluate the potential impacts associated with the proposal, those sources have been cited.

### **3.12.1 Existing Conditions**

#### **Study Area**

For the purposes of this section, the study area is defined as Whatcom County and Skagit County, Washington. The primary focus is on those communities within a 50-mile radius of the proposed cogeneration facility site at Cherry Point. The majority of project construction and operation workers are expected to commute from within this 50-mile radius.

Communities within the study area include the Lummi Reservation, which lies 5 miles south of the project site, and the Nooksack Reservation, 23 miles to the east. The incorporated cities of Blaine, Ferndale, Bellingham, Everson, and Lynden are within a 25-mile radius, as are the two smaller cities of Sumas and Nooksack. A number of other unincorporated small communities are found within commuting distance of the project site. Farther south in Skagit County, a 50-mile radius of the project site includes the cities of Anacortes, Burlington, Mount Vernon, and Sedro-Woolley, as well as a number of smaller incorporated and unincorporated communities.

A number of Canadian jurisdictions also lie within the 50-mile radius of the project site, including the urban centers of Vancouver and Victoria, British Columbia. However, most of the potential economic and social impacts would likely be experienced in Whatcom and Skagit counties, rather than in Canadian communities.

#### **Population**

Much of the population of Whatcom and Skagit counties is found in the western one-third of each county along the Interstate 5 corridor. The eastern two-thirds of both counties is largely dedicated to National Park and National Forest lands and have relatively few permanent residents. Whatcom County contains 2.8% of Washington State's population and Skagit County contains 1.7%. Table 3.12-1 presents population data for Whatcom and Skagit counties, with Washington State data provided for comparison purposes.

Washington State's population increased approximately 21.1% from 1990 to 2000, with faster growth occurring early in the decade. In Whatcom County, the population growth rate was higher than that of the state at approximately 30.5% during this period with steady annual growth. More than 75% of this growth was the result of in-migration, a response to the booming economy of the early 1990s. Skagit County also followed the pattern of high steady growth with net in-migration accounting for almost 80% of population growth.

**Table 3.12-1: Population Data**

Jurisdiction	Population 1990	Population 2000	% Change 1990-2000 Actual	% Change 2000-2010 Forecast	% Change 2010-2020 Forecast
Washington State	4,866,663	5,894,121	21.1	12.8	13.5
Whatcom County	127,780	166,814	30.5	17.2	17.8
Unincorporated	59,187	76,060	28.5	-	-
Incorporated	68,593	90,754	32.3	-	-
Skagit County	79,545	102,979	29.5	20.2	21.5
Unincorporated	37,841	44,506	17.6	-	-
Incorporated	41,704	58,473	40.2	-	-

Source: BP 2002, Appendix L; OFM 2002

Population growth forecasts were last published in 2002. As shown in Table 3.12-1, growth in Whatcom and Skagit counties is expected to continue to outpace that of Washington State although the future rates of growth in the counties and the state are expected to be lower than in the 1990s. Assuming a construction start date of early 2004, peak construction employment would occur in early 2005. At that time the population of Whatcom County is estimated to be 180,463. This estimate represents an increase of 13,649 people or 8.2% over the 2000 population (OFM 2002). The cogeneration facility would become fully operational approximately 12 months later, early in 2006. At a constant rate of annual growth in Whatcom County of 1.6%, the population is calculated to grow by approximately 2,900 people between 2005 and 2006.

The data on race show that in 2000, whites made up approximately 88.4% and 86.5% of the populations in Whatcom and Skagit counties, respectively, as compared to 81.8% for Washington State overall. Representation of other races is generally low across both counties, although Mount Vernon and nearby Burlington are more diverse with a relatively higher proportion of Hispanics compared to other parts of Whatcom and Skagit counties and the rest of Washington State (BP 2002, Appendix L).

## Housing

In 2000, Whatcom County had a total of 73,893 housing units and Skagit County had 42,681. Both counties saw growth in housing stock comparable to population growth over the decade 1990-2000, although to a lesser degree for Skagit County compared to Whatcom County. Housing is more likely to be privately owned in both counties and vacancy rates are higher for rental properties than for owned properties. Housing data are presented in Table 3.12-2.

Based on calculations using the above vacancy rates, the total number of vacant units in Whatcom County is 2,572, of which about 1,400 (55%) are in the incorporated communities, including more than 1,000 vacant units in Bellingham. Skagit County has 1,173 vacant units with 750 (64%) in incorporated areas.

Over the past decade, housing construction in the study area has kept pace with population growth. Vacancy rates are in excess of the 4% threshold, which represents a balanced condition (BP 2002, Appendix L). Forecasts of slower population growth over the 2001-2020 time frame may somewhat constrain new construction.

**Table 3.12-2: Housing**

Jurisdiction	Total Housing Units 1990	Total Housing Units 2000	% Change 1990-2000	Vacancy Rate - Owners	Vacancy Rate - Renters	Total Vacant Units	Owner-Occupied	Renter-Occupied
Washington State	2,032,306	2,451,075	20.6	1.8	5.9	79,694	64.6	35.4
Whatcom County	55,742	73,893	32.6	2.2	5.7	2,572	63.4	36.6
Skagit County	33,580	42,681	27.1	1.9	4.7	1,173	69.7	30.3

Source: BP 2002, Appendix L

In 2000, the average rent in Whatcom County for a two-bedroom unfurnished apartment was \$588. Skagit County average rents are not available. The median sales price for existing homes is \$151,800 in Whatcom County and \$162,000 in Skagit County.

A number of temporary housing options are available in Whatcom County. More than 120 facilities are within a 25-mile radius of the project, including at least 21 bed and breakfasts, 15 RV parks, and 15 campgrounds. More than 30 hotels and motels are members of the Bellingham/Whatcom County Convention and Visitors Bureau; collectively, they have approximately 1,700 rooms. About 30 non-member hotels are located in the area as well. Most of these facilities offer long-term rates.

## **Economics**

### **Major Industries and Top Employers**

Table 3.12-3 provides employment data by sector for Whatcom and Skagit counties as compiled by the Washington State Employment Security Department. For both counties, the services sector is the largest based on number of people employed, followed by retail trade, government, and manufacturing. The manufacturing sector experienced large job losses in 2001, particularly in Whatcom County.

Washington State Economic Security Department projections on employment growth for Whatcom County indicate that the services and government sectors will grow the fastest at rates of more than 16% over the five-year period, 1998-2003. Because these sectors employ large numbers of people, they will grow the most in absolute terms as well. Construction and retail, two sectors closely aligned with population growth, are forecast to grow approximately 10% for this five-year period, more or less equal to expected population growth. Other economic sectors will likely see growth rates of less than 5%.

The BP Cherry Point Refinery is one of the top employers in Whatcom County with 400 proprietary employees and an average of 400 contract employees. The refinery's use of contract maintenance employees peaks at approximately 2,400 during major refinery maintenance activities every few years. Other significant employers in Whatcom County are St. Joseph Hospital (1,700), Western Washington University (1,292), Bellingham School District (1,200),

Alcoa Intalco Works (925), and Whatcom County government (700). The employment figures in parentheses include both full- and part-time employees.

Significant full- and part-time employers in Skagit County include Affiliated Health Services (1,039), Skagit Valley College (790), Mount Vernon School District (638), Sedro-Woolley School District (590), Draper Valley Farms (500), Island Health Northwest (466), Brown and Cole, Inc, retail food (410), Skagit County government (408), Anacortes School District (374), and Skagit Valley Medical Center (354). These largest employers employ approximately 5,500 people, a third of whom work part time. The above employers account for about 10% of Skagit County employment.

**Table 3.12-3: Employment by Sector, 1999**

Sector	Employment		% of Total Employment		
	Whatcom	Skagit	Whatcom	Skagit	Washington
Total Private	77,308	45,425	87.0	84.3	84.3
Agriculture, Forestry, and Fishing	2,486	1,999	2.8	3.7	1.8
Construction	8,457	4,519	9.5	8.4	6.3
Manufacturing	10,135	5,838	11.4	10.8	11.3
Transportation and Public Utilities	3,408	2,154	3.8	4.0	4.7
Wholesale Trade	4,035	1,836	4.5	3.4	4.9
Retail Trade	17,402	11,162	19.6	20.7	17.1
Finance, Insurance, and Real Estate	6,179	3,445	7.0	6.4	7.8
Services	25,206	14,472	28.4	26.9	30.4
Government	11,505	8,470	13.0	15.7	15.7
Total Employment	88,813	53,895	100.0	100.0	100.0

Source: BP 2002, Appendix L

### Employment and Wages

Selected employment and income data compiled by the Washington State Employment Security Department are presented in Table 3.12-4. Unemployment rates fluctuated in Whatcom and Skagit counties during the 1990s. Fluctuations arise because almost half of private sector workers are in businesses that are seasonal, cyclical, or suffering from long-term decreases in employment.

Whatcom County experienced an unemployment rate of 5.7% in 2000, which represents approximately 4,500 unemployed people. More recently, unemployment has risen in 2001, surpassing 6% in Whatcom County. Skagit County has an unemployment rate of 6.9%, which represents approximately 3,500 unemployed people. In both counties, although the unemployment rate has generally fallen over the past decade, rapid population growth has meant that the fall was not sufficient enough to reduce the number of unemployed people. In comparison, the statewide rate for Washington was 5.2% in 2000, and the total number of unemployed has fallen.

**Table 3.12-4: Employment and Income, 1990-2000**

	Population	Unemployment Rate	Number of Unemployed	Average Annual Wage	Median Annual Household Income
<b>Washington State</b>					
1991	5,021,335	6.4	162,290	23,936	34,374
2000	5,894,121	5.2	158,458	37,038	50,152
% Growth	17.4	-	-2.4	54.7	45.4
<b>Whatcom County</b>					
1991	132,576	6.5	4,472	19,866	32,001
2000	166,814	5.7	4,650	26,295	41,300
% Growth	25.8	-	4.0	32.4	29.1
<b>Skagit County</b>					
1991	82,882	8.3	3,336	19,481	30,748
2000	102,979	6.9	3,560	26,634	41,585
% Growth	24.2	-	6.7	36.7	35.2

Source: BP 2002, Appendix L

The average annual wage (mean earnings per job per capita) in 2000 was \$26,295 in Whatcom County and \$26,634 in Skagit County, both lower than the average of \$37,038 for Washington State. The pattern is repeated for median household income (the income at which half of the households have a higher income and half have a lower income). Both average wages and median household income increased steadily over the decade for both counties, although at a somewhat slower rate than they did for Washington State as a whole.

### 3.12.2 Impacts of the Proposed Action

In the following analyses of construction and operational impacts, the components of the proposed action are considered together. The nature of potential population, housing, and economic impacts are such that the overall effect on these elements of the environment needs to be considered together to adequately evaluate their significance.

## Construction

### Population

To estimate the number of workers that would relocate to the study area, the availability of local labor was examined. This approach compares the number of people currently employed by trade within the local labor pool with the number required during construction of the project. Where the construction requirements for a specific trade approach or exceed the number currently employed locally, some relocation to offset potential labor shortages can be assumed. Table 3.12-5 provides estimated labor requirements by trade for construction of the project relative to the total number employed within each trade in the study area in 2000.

**Table 3.12-5: Labor Requirements and Employment**

Trades	Construction Workforce Requirement (Jobs)	Total Employment <sup>1</sup>
Boilermakers	53	53
Carpenters	70	2,696
Electricians	120	1,297
Laborers	43	2,241
Pipefitters	154	100
Painters/Insulators	13	1,036
Bricklayers	10	149
Millwrights	56	217
Operating Engineers	45	117
Truck Drivers	20	1,859

Source: BP 2002, Appendix L

1 The total employment by trade figures are for the four counties of Whatcom, Skagit, San Juan, and Island. Whatcom and Skagit make up 75% of the four county populations.

A comparison of the numbers in Table 3.12-5 suggests a requirement to relocate some employees, particularly boilermakers and pipefitters, because the construction requirements exceed the number currently employed. Relocation of operating engineers and millwrights could also be required depending on employment levels for those trades at the time of construction. On the assumption that workers from these trades may have to relocate, the relocation requirement could be as high as 150 workers. Including relocated employees from indirect labor, which is the number of jobs created in local companies that would provide goods and services in support of project construction, relocation could be as high as 180 workers (see Section 3.12.4).

Depending on the type of employment offered to workers and their individual family situation, the choice of whether or not to commute on a weekly basis or relocate as a resident in the project area will vary. Because few jobs will extend throughout the school year (in fact 90% of the construction jobs will last less than one year), it is expected that most relocating workers will prefer to commute on a weekly basis, leaving family behind. No more than 20 direct or indirect employees would be expected to have family members with them. On the basis of average household size figures for Washington State, these 20 workers could bring 26 family members with them, which would be insignificant relative to the population of the counties.

### Housing

Given the low number of potential relocations, including those for a duration long enough to warrant bringing family members, housing availability and prices would not be significantly affected. In 2000, Whatcom County had more than 2,572 vacant rental and owned housing units, and Skagit County had over 1,173 vacant rental and owned housing units. Temporary construction workers would likely seek rental housing over owner housing. Calculating from the vacancy rates in Table 3.12-2, approximately 1,500 (60%) units of vacant housing are rental property in Whatcom County and 600 (52%) in Skagit County. Because the expected number of relocating workers is relatively low, no significant impact on rental housing is anticipated.

The majority of relocating workers will likely seek temporary housing. Temporary housing is widely available in Whatcom County, where most of the commuting or temporarily relocated

workers are expected to seek accommodation. As described in Section 3.12.1, more than 120 facilities are located within a 25-mile radius of the project site. With an estimated total of 4,000 rooms or other types of short-term accommodation in the project area, 180 relocating workers seeking temporary housing would represent about 5% of supply. This figure is well within typical vacancy rates for temporary housing facilities in Whatcom County of more than 10% (BP 2002, Appendix L), even in the peak summer months. The supply of temporary housing is, therefore, unlikely to be significantly affected.

## Economics

### *Construction Workforce*

The Applicant has developed an estimate of preliminary staffing requirements for the construction phase of the project. During construction, which would last about 25 months, monthly employment on the site would average 372 people, with peak employment of 706 individuals. The project would have a total labor requirement of 8,566 person-months, equivalent to 714 jobs of one-year duration.

The labor force would vary from month to month, rising fairly slowly from an initial core construction team of 45 people. The workforce numbers would then rise as increasing numbers of craft workers are needed. Over a 12-month period, workforce numbers are expected to peak at 706, and then fall over the remaining 11 months until the last month of construction when only 23 people would be employed on the site. Table 3.12-6 provides information on labor force requirements by trade. The highest craft demand will be for pipefitters, electricians, carpenters, millwrights, and boilermakers, in that order.

**Table 3.12-6: Total Workforce Demand by Trade**

Trade	Project Workforce (Person-Months)	Project Workforce (Number of Jobs)
Boilermakers	632	53
Carpenters	845	70
Electricians	1,441	120
Ironworkers	329	27
Laborers	512	43
Pipefitters	1,851	154
Painters/Insulators	159	13
Bricklayers/Masons	117	10
Millwrights	671	56
Operating Engineers	534	45
Truck Drivers	236	20
Mechanical	110	9
Civil	146	12
Field Staff	983	82
Total	8,566	714

Source: BP 2002, Appendix L

In 2000, 8,457 construction workers were employed in Whatcom County and 4,519 were employed in Skagit County, for a total of almost 13,000. The average construction workforce for the project at 372 workers is equal to 2.9% of employed construction workers in the two counties. The peak workforce during construction of the proposed project would be 706 workers, which is equal to 5.5% of employed construction workers in the two counties. Given the seasonal nature of the construction work, the locally available construction workforce in Whatcom and Skagit counties would be sufficient, pending the availability of specific skills.

### *Wages*

Although actual wage costs would not be known until the Applicant selects its contractor, it is expected that wage rates would approximate typical wages paid for various construction trades in Whatcom County. Table 3.12-7 presents data on average wages in Whatcom County for those trades that would be required for construction of the project. Average wages for Washington State are also presented for comparison purposes.

**Table 3.12-7: Mean Hourly and Annual Wages by Trade**

Trade	Whatcom		Washington		Project Jobs	Total Wages
	Mean (hr)	Mean (yr)	Mean (hr)	Mean (yr)		
Boilermakers	23.66	49,200	24.16	50,260	53	2,591,200
Carpenters	18.11	37,670	19.50	40,560	70	2,652,596
Electricians	20.61	42,880	21.99	45,740	120	5,149,173
Ironworkers	-	42,646	21.58	44,890	27	1,169,197
Laborers	16.95	35,250	16.71	34,750	43	1,504,000
Pipefitters	21.14	43,970	22.91	47,650	154	6,782,373
Painters/Insulation Workers	17.12	35,610	16.08	33,440	13	471,833
Bricklayers/Masons	-	46,712	23.64	49,170	10	455,437
Millwrights	-	42,190	21.35	44,410	56	2,359,096
Operating Engineers	17.82	37,080	21.85	45,440	45	1,650,060
Teamsters	15.59	32,420	16.63	34,600	20	637,593
Mechanical	19.84	41,261	21.45	44,609	9	378,226
Civil	19.84	41,261	21.45	44,609	12	502,009
Field Staff	23.66	49,200	27.44	57,080	82	4,030,300
Total					714	30,333,093
Average Wage	18.19	37,830	20.15	41,920		42,493

Source: BP 2002, Appendix L

### *Local Fiscal Effects*

Of the \$465 million in estimated direct construction costs, approximately \$30 million would be paid as wages. The percentage of the \$30 million wage that would be spent in Whatcom and Skagit counties would be strongly related to the percentage of the workforce that resides in the two counties. Because most of the construction workers would be recruited from within the study area, approximately \$19 to \$20 million of wages would be spent locally by construction workers.



Sources of equipment, materials, and services for the project would be determined when the contractor is selected and materials contracts are awarded. However, given the nature of the project, some broad conservative estimates can be provided.

The equipment costs for the project, estimated to be approximately \$300 million, would likely be spent outside of the study area because the vendors of electrical generation and associated equipment are located elsewhere in the U.S.

The balance of direct construction costs, approximately \$135 million, would be spent on services and materials related to architectural design, engineering, construction of civil works, building materials, and construction management. Possibly 10%, or \$13 million, would be spent within the project area and throughout Washington State.

### *Tax Revenue*

Tax revenue from construction of the project would accrue to Whatcom County and Washington State. The state imposes a 6.5% sales or use tax on products sold or used within the state, and Whatcom County imposes an additional 1.1% tax. Because the project is in an unincorporated area, the full amount of this 1.1% tax would go to county revenue. This total of 7.6% tax on the \$300 million in equipment costs is equivalent to \$22.8 million, of which \$3.3 million would flow to Whatcom County and the balance to Washington State.

Of the \$165 million estimated costs for services and materials associated with construction, approximately \$65 million would be used to pay for materials. At the combined 7.6% sales tax rate, \$4.9 million in revenue would be generated, of which \$700,000 would accrue to Whatcom County and the balance would flow to the state.

The fiscal benefit to Whatcom County would be slightly higher than the \$4 million from the above calculations. State revenue, which includes the taxes paid on this project, is in part distributed to counties according to annual plans at the state level. Also, part of the expenditures by construction workers as well as by individuals benefiting from indirect employment creation, whether resident or commuting, would be subject to sales tax. The state also would benefit from taxes that are embedded in the price of consumer items purchased with increased incomes resulting from the project.

Sales and use tax revenue from the purchase of project construction materials and from the expenditures of construction workers are a significant one-time benefit to Whatcom County and the state. Total sales and use taxes in Whatcom County are expected to be \$8.2 million in 2002. Sales and use tax revenue generated from the project would represent an almost 25% increase in this tax revenue at the county level.

In addition, property taxes are applied to construction sites on the basis of an evaluation of work completed to date in each year. The actual amount paid would depend not only on levy rates at the time the construction is under way, but also on the construction schedule relative to the timing of evaluation. However, overall it would increase the total tax revenue to Whatcom County and the state by several million dollars.

## **Operation**

### Population

During operation of the cogeneration facility, the Applicant anticipates employing approximately 30 staff on a permanent basis, which is a very small number relative to the local population size. This staff will likely be recruited from the study area, with the possible exception of some specialized management staff. Assuming that some specialized management staff may be recruited from outside the area, it is possible that up to 10 people may be direct hires and another 5 as indirect hires, for a total potential relocated labor force of 15 during operation of the project. Indirect hires would be new employment in local companies that would provide goods and services in support of project operation.

During operation of the cogeneration facility, direct and indirect personnel from out of the area would likely move to Whatcom County permanently and distribute themselves between owned and rental accommodation according to prevailing housing patterns. Using Washington State family size figures for owners and renters, the relocation of a maximum of 15 workers is likely to result in an increase in the county population by approximately 38 people, which represents an insignificant increase.

### Housing

Given the low number of potential relocations, housing availability and prices would not be significantly affected. In 2000, Whatcom County had more than 2,572 vacant rental and owned properties, and Skagit County had more than 1,173 vacant rental and owned properties.

### Economics

#### *Operation Workforce*

During operation of the cogeneration facility, the Applicant anticipates employing approximately 30 staff on a permanent basis. Plant management and technical staff constitute about one-third of the prospective workforce; two-thirds of employees would be operation and maintenance technicians. The workforce breakdown by skill is shown in Table 3.12-8. Staff would work in shifts to run the facility 24 hours per day, seven days per week.

In addition to the permanent workforce, maintenance periods varying from two weeks per year to 18 weeks every six years would increase the workforce on a temporary basis. The maintenance schedule would repeat on a six-year cycle, and over the cycle a total of 50 person-months or four jobs of one-year duration of maintenance work would be required.

**Table 3.12-8: Expected Operation Workforce**

Position	Workforce
Plant Manager	1
Business Manager	1
Business Analyst	1
Scheduler	1
Plant Engineer	1
Operations Supervisor	1
Operations Foremen	4
Operations Technicians	11
Maintenance Supervisor	1
Maintenance Technicians	6
Health and Safety Specialist	1
Controls Engineer	1
<b>Total</b>	<b>30</b>

Source: BP 2002, Appendix L

### *Local Fiscal Effects*

Salaries, wages, and benefits for cogeneration facility employees are expected to total about \$1.8 million per year. The average project wage would be significantly higher than the average Whatcom County wage of \$26,295. It is likely that all personnel would be residents of Whatcom County, and these employees would spend a large part of their annual wages locally.

In addition, temporary labor would likely be contracted from within the study area. The annual estimated cost of wages and benefits paid for these services would be about \$200,000, which brings the annual cogeneration facility labor cost to approximately \$2 million.

Annual operation and maintenance costs for the cogeneration facility, excluding the cost of natural gas, are estimated at \$18.2 million. Of this, \$2 million is for wages and benefits and \$6 million is for maintenance and repair of materials, and water and chemical costs. The potential for purchase of materials in the study area is limited and would not likely exceed 5% of the total. A further \$3 million would be spent on contractors hired to complete specialized maintenance activities that cannot be undertaken by permanent staff. Annual property tax to Whatcom County could be up to \$6 million. The balance of \$1.2 million would be spent on insurance and other costs.

### *Tax Revenue*

Tax revenue during operation would be derived from brokerage tax imposed on natural gas purchases, property taxes on the cogeneration facility, sales and use taxes on materials purchased in the course of operating and maintaining the facility, and sales tax on expenditures by the 30 employees who would fill new jobs created by the project.

Washington State applies a brokerage tax of 3.852% on purchases of natural gas. The Applicant has estimated gas consumption at between 39,240,000 and 46,110,000 million Btu/yr Higher Heat Value (HHV) on the assumption of a facility capacity utilization of 80-94%. Assuming a natural gas price of \$3.00 per million Btu HHV, brokerage tax revenue accruing to the state would be between \$4.5 and \$5.3 million annually. This figure would vary with fluctuations in the price of natural gas, and with the volume of gas purchased on an annual basis by the cogeneration facility.

In 2001, Whatcom County levied total property taxes of \$149.7 million for property with a cumulative assessed value of \$11,547 million. Assuming an assessed value for the cogeneration facility equal to its \$465 million construction cost, total assessed value of taxable property in the county would increase by approximately 4%. At the time of project completion, total property taxes could be up to \$6 million annually using the 2001 average tax rate. Of this, approximately \$0.7 million would accrue directly to Whatcom County, \$1.5 million to Washington State, and the balance of \$3.8 million to the county's school, fire, hospital, water, recreation, and port districts and to its incorporated cities.

During operation, the cogeneration facility would also pay business and occupation (B&O) and public utility tax to the state of Washington. The B&O tax is levied on product revenues at a rate of 0.484%. The public utility tax is levied on the basis of gross operating revenue at a rate of 3.873%. The total tax paid would depend not only on the tax rate, but also on the tax classification of the cogeneration facility; available exemptions, deductions, and credits associated with project operation; the volume of production; the location of sale of the energy; and the price of energy. Nevertheless, taken together these taxes are likely to be several million dollars per year.

Because of the relatively few number of relocating employees created by the cogeneration facility, the project is not expected to place significant additional demands on local public services. No impacts on government service costs either from project construction or operation have been identified, and the net fiscal balance would remain positive throughout the project lifecycle because of the additional tax revenue collected.

### Environmental Justice

In 1997, Whatcom County had a poverty rate of approximately 11.4%, equal to 17,650 people (BP 2002, Appendix L). The Lummi Reservation has been identified as a "low income" census tract area, which means that more than 20% of the population has an income less than national poverty rates. The U.S. government has identified the Nooksack Reservation as a "distressed community," which means that more than 30% of the population has an income below the national poverty rate, and the unemployment rate is greater than the national average of 1.5%. The only other area in Whatcom County identified as either low income or distressed is the sparsely populated rural southwest corner. The reservations are therefore disadvantaged relative to the rest of county jurisdictions with poverty rates two to three times higher and significantly more unemployment.

Construction and operation of the cogeneration facility would not displace any people, including any low-income or minority people, or those living on the reservations. It also would not have any disproportionately negative impacts on these people.

### **3.12.3 Impacts of No Action**

Under the No Action Alternative, the cogeneration facility would not be constructed. No additional employment or tax revenues would be created, and no workers would relocate to the project area. No construction or operational impacts related to population, housing, or economics would occur.

### **3.12.4 Secondary and Cumulative Impacts**

The indirect workforce associated with the construction stage of the project is estimated at 210 people (BP 2002, Appendix L). Indirect employment includes jobs created in local companies that would provide goods and services in support of the project. Unlike construction labor, which may be recruited from outside the study area because of trade-specific shortages, indirect labor is more likely to be locally recruited with local businesses benefiting from increased expenditures by the construction workforce. If 15% of indirect labor were recruited from outside the study area, this is equivalent to approximately 30 people. The recruitment outside the study area would total about 180 direct or indirect workers, who could choose to relocate to the study area. Labor availability for indirect employment would be unconstrained given local unemployment rates.

The project would also be a source of induced employment, which is employment that results from the increased economic activity that occurs when workers and local suppliers and their employees have increased disposable income as a result of project construction. In an economy such as Whatcom County's, which is characterized by much seasonal employment (related not only to a strong construction industry, but also to tourism and to a lesser extent agriculture and fisheries), induced employment tends to be absorbed. That is, rather than mobilizing and demobilizing to service particular projects or seasonal events, the local economy and infrastructure can absorb and respond to temporary economic events. Swings in revenue are experienced by local businesses, for example, but do not necessarily result in constant hiring and firing. On this assumption, impacts from induced employment expected from construction of the cogeneration facility are not considered to be significant, although local businesses are likely to experience increases in income.

With the current unemployment rate, the construction and operation of the cogeneration facility would reverse recent losses of jobs and revenue in the county. No significant cumulative impact on population growth or the availability of housing would occur.

### **3.12.5 Mitigation Measures**

Because no significant adverse impacts related to population, housing, or economics would occur, mitigation measures would not be necessary.

### **3.12.6 Significant Unavoidable Adverse Impacts**

Increases in population and housing demand created by construction and operation of the cogeneration facility would be relatively low compared to the population and housing market in Whatcom and Skagit counties. Also, because of the relatively small number of relocating employees created by the cogeneration facility, the project is not expected to place significant additional demands on local public services; therefore, no significant unavoidable adverse impacts on population, housing, or economics are identified.